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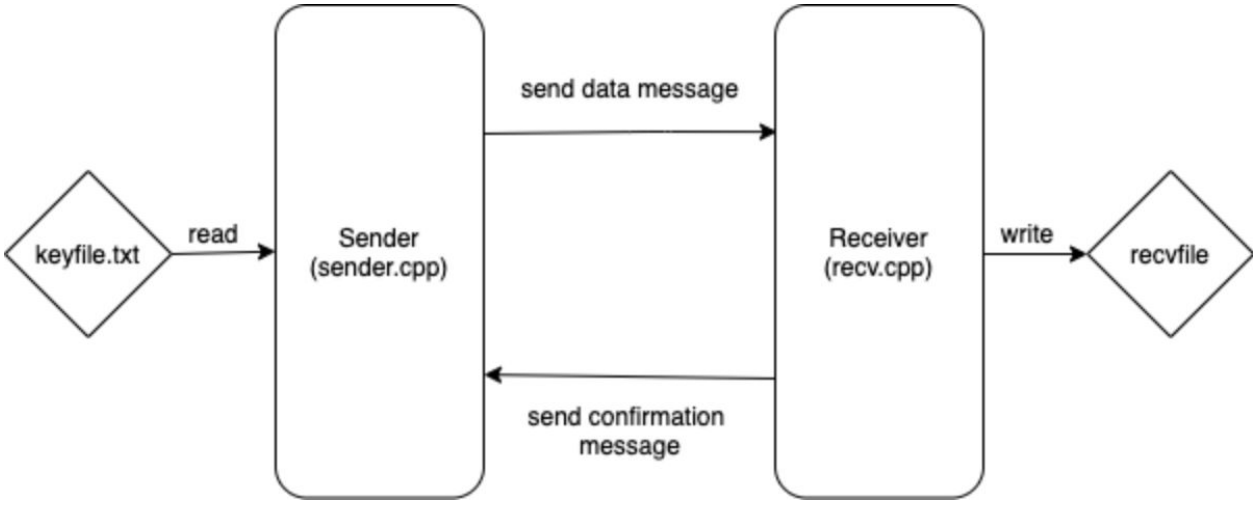
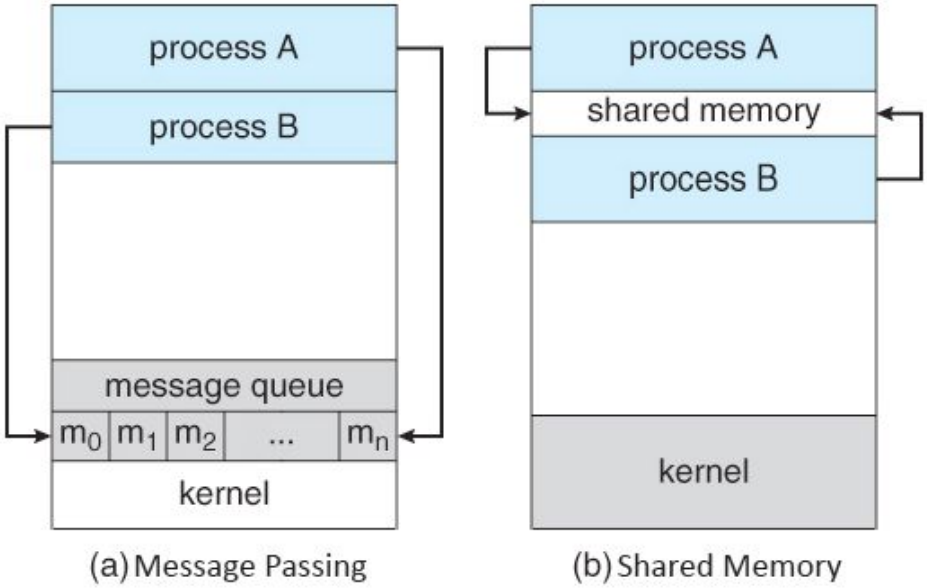
3/13/20
CPSC 351

Design of Assignment 1



The goal of assignment 1 was to get two processes communicating with each other using Inter-process communication (IPC). The two mechanisms that we used were shared memory and message queues.



Shared memory involves all processes communicating with each other to attach to the same memory location that is provided by the operating system. Once all processes have attached to the same memory address they can all access the data that is being stored there.

The second mechanism, message queues, were used so that each process would be able to communicate with the other. The sender process will send a message to the receiver process stating that it sent a certain amount of bits so that the receiver process could write that data to the designated file. Once the receiver successfully reads the message, the receiver will then return a message to the sender process notifying it that it successfully received the message. This cycle will continue until the sender process sends a message with a size of 0 bits. Once the receiver receives this message the program will terminate.

Upon program termination, both the sender and receiver process will detach themselves from the shared memory. Following this, the shared memory and message queue will be deallocated. If the user terminates the program using ctrl-c, each process will be detached from the shared memory and both the shared memory and message queue will be deallocated using a signal function.

Images

https://www.w3schools.in/operating-system-tutorial/interprocess-communication-ipc/